
MIOSHA-CSHD

DIVISION INSTRUCTION

Construction Safety and Health Division
Michigan Occupational Safety and Health Administration
Department of Labor and Economic Growth

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SUBJECT: Fall Protection – General Interpretations

ABSTRACT

- I. Purpose:** It is the policy and intent of MIOSHA to establish clear and concise interpretations and guidelines for compliance with MIOSHA Part 25, Concrete Construction and MIOSHA Part 45, Fall Protection.
- This instruction provides inspection and compliance guidelines for fall protection requirements regarding:
- A. Working around holes and hoistways
 - B. Working on formwork
 - C. Working on reinforcing steel
 - D. Roofing material vendors
 - E. Working on low-slope roofs (other than roofers)
- II. Scope:** This instruction applies to the Construction Safety and Health Division.
- III. References:** MIOSHA Construction Safety Standard Part 25, Concrete Construction
MIOSHA Construction Safety Standard Part 45, Fall Protection
OSHA 29 CFR Part 1926 Subpart M
OSHA Letters of Standards Interpretation dated 09/26/1995, 03/09/1999, 08/01/2000, 08/28/2000, 01/05/2001, 11/15/2002 and 12/15/2003
- IV. Distribution:** General; MIOSHA web site accessible
- V. Cancellations:** None

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- IV. Documents Affected.

MIOSHA Construction Safety Standard Part 25, Concrete Construction, Rule 408.42518(1) and Rule 408.42521(3)

MIOSHA Construction Safety Standard Part 45, Fall Protection
- V. Action Required. The Construction Safety and Health Division will follow and implement the policies and procedures contained in this instruction.
- VI. Definitions.
 - A. Formwork Activities: Work operations that include the laying out, placing, connecting, hoisting, plumbing, guying, and bracing of form panels, including installing ties and moving point-to-point while performing any of these activities.
 - B. Hoistway: All areas where equipment and material hoisting operations are being carried out on floors, roofs, or other walking/working surfaces.
 - C. Hole: A gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.

- D. Moving Point-To-Point: When an employee is moving horizontally or vertically on an elevated work surface.
- E. Reinforcing Steel Activities: The assembling of reinforcing steel by manual placement of steel rebar into wall mats, columns, cages, or other configurations which requires carrying and tying pieces by the installer without the use of a lifting device.
- F. Restraint System: A fall protection system that prevents the user from falling any distance.
- G. Roof Blocking: Framing that is added at the edge of the roof or around a hole (used for ventilation, heating, air conditioning, or other equipment) in a low-sloped roof, which provides support for equipment and aids in sealing the roof. The type of blocking referred to is not part of the supporting structure of the roof.

VII. Fall Protection Requirements.

A. FALL PROTECTION REQUIREMENTS WHEN WORKING AROUND HOLES AND HOISTSWAYS

- 1. All employees in a **hoist area**, whether it is a hole or edge of a walking/working surface, must be protected from falls of 6 feet or more by a guardrail system:
 - a) When guardrails are removed to facilitate hoisting operations, the employees are required to be protected from falls by a personal fall arrest system.
 - b) If the employee has to lean out over the edge after the guardrails are removed, then he or she must be protected by a personal fall arrest system.
 - c) If the employee does not need to lean out over the edge after the guardrail has been removed, then he or she still must be protected by a personal fall arrest system. This may be implemented with a restraint system.

The last sentence of Part 45, 1926.501(b)(3) states that employees who must lean through the access opening or out over the edge of the access opening must be protected by a personal fall arrest system. This requirement does not create an exception for employees without a need

to lean out. The requirement that these employees must also be protected is reflected in 1926.502(d)(24). It specifically provides that fall arrest systems in hoist areas shall be rigged to prevent employees from leaning past the edge: “When a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.” In other words, a restraint system may be used.

2. The requirements for working around a **hole** that is not a hoistway are reflected in 1926.501(b)(4). As stated in this rule, “Each employee on walking/working surfaces shall be protected from falling through holes (including skylights) more than 6 feet (1.8m) above lower levels, by personal fall arrest systems, covers, or guardrail systems erected around such holes.” There are exceptions to this rule for roofing operations. Employees who are engaged in “roofing operations” on a low-sloped roof (4/12 or less) are permitted to use a combination of the additional methods listed below:

- a) Warning line and guardrail system
- b) Warning line and safety net system
- c) Warning line and personal fall arrest system
- d) Warning line and safety monitoring system
- e) Only a monitoring system on roofs 50-feet (15.25 m) or less in width in accordance with Appendix A of Part 45.

In order to address this issue more clearly, an example of working around holes on a low-sloped roof is as follows:

When roof blocking installation is done as an integral part of the installation of the weatherproofing material for the roof, the worker installs roofing material up to the roof hole, installs the blocking, and then continues installing the roofing material (including up and around the blocking). When done this way, since it is an integral part of installing the weatherproofing material, it is considered “roofing work”.

Another method is to install the blocking separately—before installation of the weatherproofing material begins. When done this way, it is not a part of “roofing work”.

For further clarification, the classification of “roofing work” under 1926.501(b)(10) does not depend on whether it is done by a roofing contractor or a carpentry contractor. Whether roof blocking is considered to be roofing work depends instead on the installation method used as described above. The activity and not the trade of the worker determine which requirements apply.

3. When cutting a hole or removing a cover from an existing hole for the placement of equipment or material, the employee must have a cover immediately available so the opening can be covered as soon as he has completed the work. *Under no circumstances* shall an employee walk away from a newly created hole or a partially cut hole without properly covering it. Precautions should be taken so that no one walks below the hole and into the line of any loose material that may fall. As soon as the work is complete, the cover shall be secured over the hole and properly marked. When removing an existing cover, all employees (other than roofing operations which are addressed in section VII. A. 2. of this instruction) must be protected from falling into the hole with a personal fall arrest system or a restraint system unless the hole is in the process of being permanently filled or covered with the equipment for which it was intended. Only a hole that is being actively worked on may have the cover removed for the work operation in progress.

B. FALL PROTECTION REQUIREMENTS FOR EMPLOYEES WORKING ON THE FACE OF FORMWORK

When employees are working or moving point-to-point 6-feet or more above the ground on formwork they must be protected by a personal fall arrest system or shall be provided with scaffolding as prescribed in Scaffolds and Scaffold Platforms Part 12, R 408.41201, et seq.

As of January 1 1998, body belts are no longer acceptable as part of a personal fall arrest system. Note: The use of a body belt in a positioning device system is acceptable and is regulated in Part 45, 1926.502(e).

Positioning devices are essentially body belts or body harnesses that are attached by short lanyards (2 feet or less) to the work surfaces, allowing a worker to perform a job with both hands free while leaning. Therefore, when used in compliance with Part 45, 1926.502(e), positioning devices with lanyards attached at the front or sides will provide appropriate fall protection for employees while working on the face of formwork, but not moving point-to-point.

An example would be if an employee was working on a 25-feet high by 10-feet wide wall form installing ties and/or bracing the panels 6-feet above the ground or floor without the use of a ladder or scaffold, the employee would have to be protected by a personal fall arrest system when moving horizontally or vertically point-to-point regardless of the type of the formwork used. If the formwork meets all the requirements of a fixed ladder, then it may be used to move vertically to access platforms or the top of the form up to 24 feet without additional fall protection.

C. FALL PROTECTION REQUIREMENTS FOR EMPLOYEES WORKING ON REINFORCING STEEL

Part 45, 1926.501(b) (5) requires that employees on the face of reinforcing steel must be protected from falling 6-feet or more to lower levels by personal fall arrest systems, safety net systems, or positioning devices.

Because of the way rebar is transported to a work location (workers carry the rebar by cradling it in their arms), it is not feasible, or would create a greater hazard, to constantly connect and disconnect fall protection devices while climbing the rebar assemblies. For this reason and because rebar assemblies are similar to a fixed ladder, only those employees who are actively involved in constructing rebar assemblies are allowed to climb without fall protection up to 24-feet. Once employees reach their work location or climb to heights above 24-feet, they must use a personal fall arrest system or a positioning device system as required by Part 45, Fall Protection.

This exception applies only to employees building rebar assemblies. If an employee climbs a rebar assembly to build the assembly, then personal fall protection is not required below 24-feet when moving point-to-point. If an employee climbs a rebar assembly for purposes other than building the assembly, then personal fall protection is required when moving point-to-point above 6-feet.

This exception applies to built-in-place rebar assemblies only and would not be applicable to assemblies that are built on the ground and lifted into place by a crane or other equipment. For these instances, fall protection is required at all times for employees working above 6-feet (including while climbing the rebar assemblies or moving point to point on them).

D. FALL PROTECTION REQUIREMENTS FOR ROOFING MATERIAL VENDORS.

If the roofing material product will be used during construction activity, then the delivery vendor's employees are required under Part 45 to be protected from falls of 6-feet or more to lower levels when possible. Therefore, these employees must be provided with personal fall arrest equipment to attach to a suitable anchor point if available. If a suitable anchor point is not readily available, then the vendor's employees will not be required to be tied off. The vendor's employees are not required to install an anchorage point for fall protection when distributing roofing materials regardless of the slope of the roof or the fall distance. However, if an anchorage point is already available on the roof, the vendor's employees must use fall protection equipment and tie off.

MIOSHA will require a handhold (rope, chain, or other railing) that is attached to the conveyer belt so that the vendor's employees have something to steady him or herself with as they gain access to the roof, or a ladder must be used to gain access to the roof.

All employees who are engaged in the roofing operation who are not roofing vendor's employees are required to have conventional fall protection or implement a fall protection plan depending on the type of work being performed (commercial vs. residential).

E. FALL PROTECTION REQUIREMENTS FOR EMPLOYEES (OTHER THAN ROOFERS) WORKING ON LOW-SLOPE ROOFS

When certain conditions are met, the use of a warning line 15 feet back from the edge will be considered acceptable and not a violation of the guardrail criteria in Part 45, 1926.502 (b). All of the following conditions must be met for the application of this policy.

1. A warning line is used 15 feet or more from the edge.
2. The warning line meets or exceeds the requirements in Part 45, 1926.502 (f)(2).
3. No work or work-related activity is to take place in the area between the warning line and the edge.
4. The employer effectively implements a work rule prohibiting the employees from going past the warning line.

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The fact that other trades are working on the roof at the same time as the roofing workers does not alter the fact that the standard does not permit the other trades to rely on a warning line at 6 feet from the edge for fall protection.